R E M A R K S

Reconsideration of this application is respectfully requested.

RE: THE CLAIM OBJECTION

The Examiner objected to claim 9 as being "substantially redundant to claim 1." This objection, however, is respectfully traversed.

According to the present invention as recited in claim 1, an angle of inclination of each blade surface of the casing with respect to a direction of a line of flow of the airflow is set such that lumps of ice and snow, which may form on the surfaces of the casing and which may detach from the casing and be blown downstream by the airflow into the engine, the airframe or other equipment of the aircraft, detach at a stage of growth so as to prevent damage to the engine, the airframe or the other equipment of the aircraft.

Similarly (but differently), according to the present invention as recited in claim 9, an angle of inclination of the leading edge section of the casing with respect to the direction of the line of flow of the airflow is set such that the lumps of ice and snow detach at the stage of growth at which the lumps of ice and snow do not cause damage to the engine, the airframe or the equipment of the aircraft.

As shown in Fig. 1 and as described in the specification at page 6, lines 9-18, the blade surfaces (traversing surfaces) are designated by reference numerals 23, and the leading edge section is designated by reference numeral 24. And it is respectfully submitted that the leading edge section 24 and the blade surfaces 23 are different structural features of the present invention.

Accordingly, it is respectfully submitted that claim 9 is not redundant to claim 1, and it is respectfully requested that the Examiner's objection to claim 9 be withdrawn.

RE: THE PRIOR ART REJECTION

Claims 1 and 9-12 were rejected under 35 USC 102 as being anticipated by newly cited USP 5,003,295 ("Kleven"), and claims 1-8 were rejected under 35 USC 103 as being obvious in view of Kleven. These rejections, however, are respectfully traversed.

According to the present invention as recited in each of independent claims 1, 10 and 12, a temperature measuring device is provided which comprises an approximately blade-shaped casing arranged within an airflow flowing into an engine of an aircraft or on an external surface of an airframe of the aircraft, wherein the temperature measuring device measures a total temperature T1

of the airflow based on a measured temperature T of the airflow flowing over surfaces of the casing.

In particular, independent claim 1 recites that an angle of inclination of each blade surface of the casing with respect to a direction of a line of flow of the airflow is set such that lumps of ice and snow, which may form on the surfaces of the casing and which may detach from the casing and be blown downstream by the airflow into the engine, the airframe or other equipment of the aircraft, detach at a stage of growth so as to prevent damage to the engine, the airframe or the other equipment of the aircraft.

In addition, independent claim 10 recites that a width of a leading edge section of the casing with respect to a direction of a line of flow of the airflow is set such that the lumps of ice and snow detach at a stage of growth so as to prevent damage to the engine, the airframe or the other equipment of the aircraft.

Still further, independent claim 12 recites that an angle of inclination of the leading edge section of the casing with respect to a direction of a line of flow of the airflow is set such that the lumps of ice and snow detach at a stage of growth so as to prevent damage to the engine, the airframe or the other equipment of the aircraft.

Thus, according to the present invention as recited in independent claims 1, 10 and 12, the inclinations of the blade

surfaces, the width of the leading edge section and the inclination of the leading edge section are set to provide the casing with a shape so as to cause lumps of ice and snow to fall off the casing before reaching a size that is dangerous to the aircraft.

On page 2 of the Office Action, the Examiner asserts that "Kleven discloses a temperature measuring device (probe 10 and the thermal member 30) measuring a temperature of the airflow flowing over the surfaces of the device (casing/strut 14) and provides an output (col. 3, lines 18-20) (total) temperature of the airflow. The device's leading edge has an inclined (tapered) shape facing airflow such that an ice that can deposit on the leading edge is being heated/deiced by heaters 44 and melted (detached at a stage of growing) before becoming dangerous for an aircraft (being blown into an engine)."

It is respectfully submitted, however, that the features disclosed by Kleven do not correspond to the above described features of the present invention recited in independent claims 1, 10 and 12.

In particular, it is respectfully submitted that the probe 10 and thermal member 30 of Kleven do not measure a temperature of the airflow flowing over the surfaces of the device. Instead, as disclosed at column 1, lines 63-66 of

Kleven, the probe 10 is an ice detector probe "for sensing an ice deposition from an air mass moving relative thereto". That is, the probe 10 of Kleven senses the ice deposition on sensing surface 32 by means of the thermal member 30. The thermal member 30, however, does not measure the temperature of the airflow flowing over the surfaces of the device.

As described at column 2, lines 22-35 of Kleven, the thermal member 30 heats sensing surface 32 to melt any ice on the sensing surface 32, and measures the temperature of the sensing surface 32 during heating so as to sense ice deposition on the sensing surface 32. More specifically, the device of Kleven extrapolates a rate of ice deposition from the rate of change of the temperature of the sensing surface 32. The ice deposition can be detected because the rate of temperature change of the sensing surface 32 is different when ice is being deposited than when ice is not being deposited.

Accordingly, it is respectfully submitted that the device disclosed in Kleven does not measure a temperature of the airflow flowing over the device. And the product of the measurement in Kleven is not the total temperature T1 of the airflow based on a measured airflow temperature. Instead, the output of the device of Kleven is an extrapolated ice deposition rate based on a measured surface temperature of the sensing surface 32.

It is respectfully submitted, therefore, that the probe 10 and thermal member 30 described by Kleven do not at all correspond to the temperature measuring devices according to the present invention as recited in claims 1, 10 and 12 which measure a temperature of the airflow flowing over the device.

It is respectfully pointed out, moreover, that the temperature sensor 42A disclosed by Kleven merely measures the temperature of the strut 14, which is heated by heater elements 40A and 44A, and not the temperature of the airflow.

Accordingly, it is respectfully submitted that Kleven does not at all disclose, teach or suggest the feature of the present invention as recited in each of independent claims 1, 10 and 12, whereby a temperature measuring device is provided which comprises an approximately blade-shaped casing arranged within an airflow flowing into an engine of an aircraft or on an external surface of an airframe of the aircraft, wherein the temperature measuring device measures a total temperature T1 of the airflow based on a measured temperature T of the airflow flowing over surfaces of the casing.

Still further, it is respectfully submitted that Kleven also does not disclose, teach or suggest the features of the present invention as recited in independent claims 1, 10 and 12 whereby elements of the casing are constructed to prevent lumps of ice

and snow from building up on the casing and becoming dangerous to the aircraft. In this connection, it is noted that the Examiner points out on page 2 of the Office Action that the leading edge 34 and trailing edge 36 of the strut 14 in Kleven are tapered. Nevertheless, it is respectfully submitted that as disclosed at column 2, lines 44-57 of Kleven, the strut 14 is tapered only to reduce aerodynamic drag. And it is respectfully submitted that Kleven does not disclose, teach or suggest that the shape of the strut 14 prevents ice from forming on the device, and that Kleven provides no disclosure of how to achieve such an effect.

In fact, the strut 14 disclosed in Kleven requires heaters 40A and 44A disposed in bores 40 and 44 in order to de-ice the strut. And since the device of Kleven requires heaters to prevent ice formation, it is respectfully submitted that the shape of the device disclosed by Kleven is not sufficient to prevent the build-up of dangerous lumps of ice and snow.

Accordingly, it is respectfully submitted that Kleven does not disclose, teach or suggest the features of the present invention as recited in independent claims 1, 10 and 12 whereby the inclinations of the blade surfaces, the width of the leading edge, and the inclination of the leading edge of the casing with respect to a direction of a line of flow of the airflow,

respectively, are set such that lumps of ice and snow, which may form on the surfaces of the casing and which may detach from the casing and be blown downstream by the airflow into the engine, the airframe or other equipment of the aircraft, detach at a stage of growth so as to prevent damage to the engine, the airframe or the other equipment of the aircraft.

In view of the foregoing, it is respectfully submitted that the present invention as recited in each of independent claims 1, 10 and 12, as well as each of claims 2-9 and 11 respectively depending therefrom, patentably distinguishes over Kleven, under 35 USC 102 as well as under 35 USC 103.

RE: JP 11-095563

As requested by the Examiner, submitted herewith is a Declaration by the inventor stating that he is an inventor of Japanese Patent Application No. 11-095563 and that his name was erroneously omitted from the European Patent Office publication of the Patent Abstracts of Japan publication of the abstract of that application.

* *

If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the

undersigned at the telephone number given below for prompt action.

Respectfully submitted,

Douglas Holtz
Reg. No. 33,902

Frishauf, Holtz, Goodman & Chick, P.C.
767 Third Avenue - 25th Floor
New York, New York 10017-2023
Tel. No. (212) 319-4900
Fax No. (212) 319-5101
DH:iv
encs.